

We claim:

1. A method of signal transmission comprising the steps of:
 - splitting a signal s_1 into signals $s_1(a)$ and $s_1(b)$, wherein the signal s_1 is split unevenly such that the signal $s_1(a)$ has an associated power level greater than a power level associated with the signal $s_1(b)$;
 - phase sweeping the signal $s_1(a)$ using a first phase sweep frequency signal to produce a phase swept signal $s_1(a)$; and
 - phase sweeping the signal $s_1(b)$ using a second phase sweep frequency signal to produce a phase swept signal $s_1(b)$, wherein the phase swept signal $s_1(a)$ has a different phase from the phase swept signal $s_1(b)$.
2. The method of claim 1, wherein the first phase sweep frequency signal phase sweeps the signal $s_1(a)$ in a direction opposite to a direction the second phase sweep frequency signal phase sweeps the signal $s_1(b)$.
3. The method of claim 2, wherein a first phase sweep frequency associated with the first phase sweep frequency signal is identical to a second phase sweep frequency associated with the second phase sweep frequency signal.
4. The method of claim 2, wherein a first phase sweep frequency associated with the first phase sweep frequency signal is not identical to a second phase sweep frequency associated with the second phase sweep frequency signal.
5. The method of claim 2, wherein a first phase sweep frequency associated with the first phase sweep frequency signal is a fixed phase shifting rate.
6. The method of claim 2, wherein a first phase sweep frequency associated with the first phase sweep frequency signal is a variable phase shifting rate.
7. The method of claim 2, wherein a second phase sweep frequency associated with the second phase sweep frequency signal is a fixed phase shifting rate.
8. The method of claim 2, wherein a second phase sweep frequency associated with the second phase sweep frequency signal is a variable phase shifting rate.

- 1 9. The method of claim 1, wherein the first and second phase sweep frequency signals phase
2 sweep the signals $s_1(a)$ and $s_1(b)$ in a same direction.
- 1 10. The method of claim 9, wherein a first phase sweep frequency associated with the first
2 phase sweep frequency signal is identical to a second phase sweep frequency associated
3 with the second phase sweep frequency signal.
- 1 11. The method of claim 9, wherein a first phase sweep frequency associated with the first
2 phase sweep frequency signal is not identical to a second phase sweep frequency
3 associated with the second phase sweep frequency signal.
- 1 12. The method of claim 1 comprising the additional step of:
2 amplifying the phase swept signals $s_1(a)$ and $s_1(b)$.
- 1 13. The method of claim 1 comprising the additional step of:
2 transmitting the phase swept signals $s_1(a)$ and $s_1(b)$ over a pair of diversity
3 antennas.
- 1 14. A method of signal transmission comprising the steps of:
2 splitting a signal s_1 into signals $s_1(a)$ and $s_1(b)$, wherein the signal s_1 includes a
3 communication signal;
4 phase sweeping the signal $s_1(a)$ using a first phase sweep frequency signal to
5 produce a phase swept signal $s_1(a)$; and
6 phase sweeping the signal $s_1(b)$ using a second phase sweep frequency signal to
7 produce a phase swept signal $s_1(b)$, wherein the phase swept signal $s_1(a)$ has a different
8 phase from the phase swept signal $s_1(b)$.
- 1 15. The method of claim 14, wherein the first phase sweep frequency signal phase sweeps the
2 signal $s_1(a)$ in a direction opposite to a direction the second phase sweep frequency signal
3 phase sweeps the signal $s_1(b)$.
- 1 16. The method of claim 15, wherein a first phase sweep frequency associated with the first
2 phase sweep frequency signal is identical to a second phase sweep frequency associated
3 with the second phase sweep frequency signal.

- 1 17. The method of claim 15, wherein a first phase sweep frequency associated with the first
2 phase sweep frequency signal is not identical to a second phase sweep frequency
3 associated with the second phase sweep frequency signal.
- 1 18. The method of claim 15, wherein a first phase sweep frequency associated with the first
2 phase sweep frequency signal is a fixed or a variable phase shifting rate.
- 1 19. The method of claim 15, wherein a second phase sweep frequency associated with the
2 second phase sweep frequency signal is a fixed or variable phase shifting rate.
- 1 20. The method of claim 14, wherein the first and second phase sweep frequency signals
2 phase sweep the signals $s_1(a)$ and $s_1(b)$ in a same direction.
- 1 21. The method of claim 20, wherein a first phase sweep frequency associated with the first
2 phase sweep frequency signal is identical to a second phase sweep frequency associated
3 with the second phase sweep frequency signal.
- 1 22. The method of claim 20, wherein a first phase sweep frequency associated with the first
2 phase sweep frequency signal is not identical to a second phase sweep frequency
3 associated with the second phase sweep frequency signal.
- 1 23. The method of claim 14 comprising the additional step of:
2 amplifying the phase swept signals $s_1(a)$ and $s_1(b)$.